

aJ-OrionTM User's Manual
April 6, 2012

iPhone Version 3.6
aJ-Orion Home Security System
aJile Systems, Inc.

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CHAPTER 1: OVERVIEW

The aJile aJ-Orion Home Security System is a compact portable network security device that detects intrusion, captures intruder's image, and sends alerts to an application on a smart phone. The aJile security device is based on a unique patented intrusion technology that can detect intrusion into a premises with a floor space up to 2000 SF in an enclosed environment. It also combines an integrated image capture, JPEG image compression, and flexible network capability including LAN, WIFI and optional cellular Edge/GPRS into a single box. It's a portable security system that moves with you, and travel with you if you move to a new place. It just requires a simple installation, and will adapt to your new place quickly and easily. The aJ-Orion is intended for apartments, condos, small houses, offices, retail shops, mobile homes, containers, and boats/yachts

The aJ-Orion Home Security System consists of the following components as shown in Figure 1-1 below.




aJ-Orion Home Security Device	Ethernet Crossover Cable	Power Adapter
		

Figure 1-1: aJ-Orion Home Security System

The aJ-Orion Home Security System requires the user to provide a WIFI capable smart phone (Android or iPhone) with data service plan (3G recommended).

1.1. Warranty

aJile Products warrants to you, the original purchaser of this Product, that this product shall be free of defects in material or workmanship for the Warranty Period of one (1) year as follows:

1. LABOR: During the Warranty Period if this Product is determined to be defective, Insignia will repair or replace the Product, at its option at no charge, or pay the labor charges to any aJile authorized service facility. After the Warranty Period, you must pay for all labor charges.
2. PARTS: In addition, aJile will supply, at no charge, new or rebuilt replacement parts in exchange for defective parts for the Warranty Period. After the Warranty Period, you must pay all parts costs.

To obtain warranty service, you must take the Product with your original receipt or other proof of purchase, either in its original packaging or packaging affording an equal degree of protection, to your nearest retail store location of the store or online web site from which you purchased the Product.

This warranty does not cover cosmetic damage or damage due to acts of God, lightning strikes, accident, misuse, abuse, negligence, commercial use, or modification of, or to any part of the Product, including the antenna. This warranty does not cover damage due to improper operation or maintenance, connection to improper voltage supply, or attempted repair by anyone other than a facility authorized by aJile to service the Product. This warranty does not cover Products sold AS IS or WITH ALL FAULTS, or consumables (such as fuses or batteries). This warranty is valid only in the United States and Canada.

This warranty is invalid if the factory applied serial number has been altered or removed from the Product.

REPAIR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER. aJile SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY, REPRESENTATION OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS PRODUCT IS LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY.

Some states or provinces do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state, or province to province.

For customer service please call 1-408-557-0829

www.security.aJile.com

aJile Systems Inc, San Jose, California, U.S.A.

CHAPTER 2: SETUP AND CONFIGURATION

2.1. Getting Started

The following information is needed before setting up and configuring the aJ-Orion Home Security System.

- Google Gmail account ID and password - [Sign up for a Gmail account](#).
- If using wireless networking (WLAN), obtain the WLAN network name (SSID) and Security Key if security is enabled.

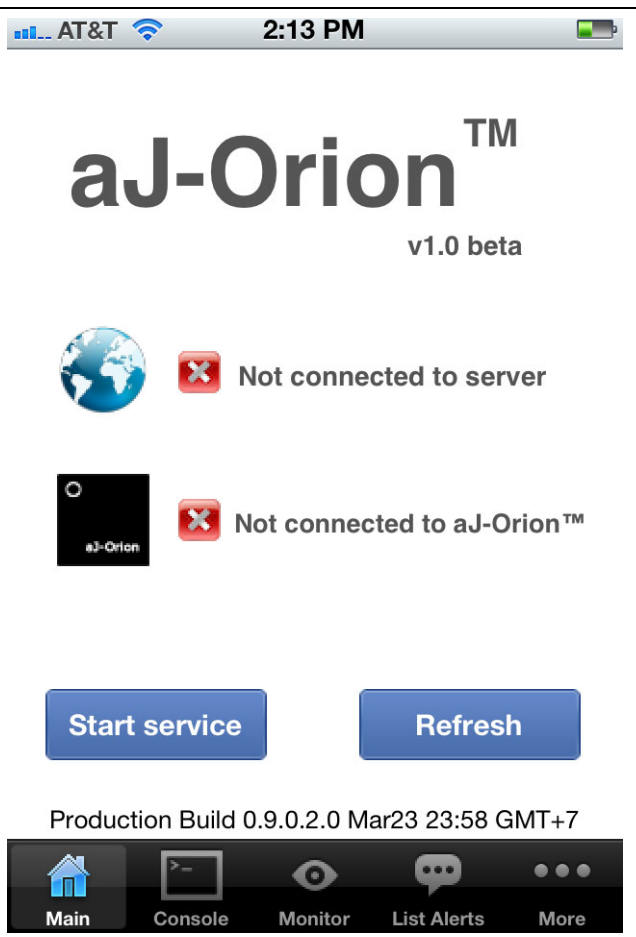
IMPORTANT:

- A wireless router with LAN network ports is needed.
- For initial configuration, the aJ-Orion needs to be connected to the router via the provided Ethernet cable.
- A smart phone (Android or iPhone) needs to be connected wirelessly to the same router.

The aJ-Orion User Manual and additional information is available from the aJile website (www.security.ajile.com)

2.2. aJ-Orion Client Application Installation

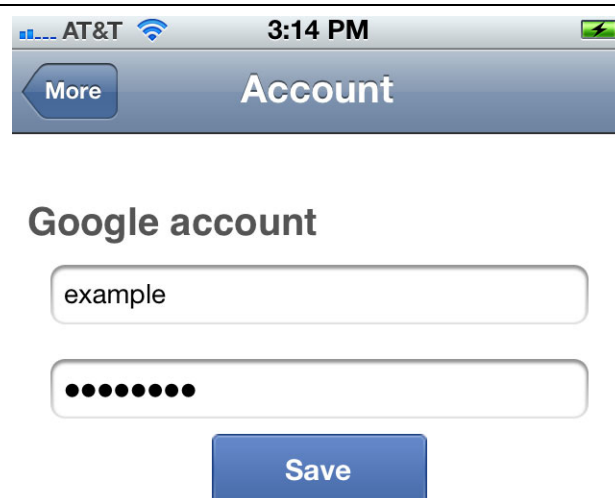
- 1 For iPhone devices, download the [aJ-Orion client application](#) via the Apps Store. Select the “Search” button and search for “aj-orion”.
- 2 Launch aJ-Orion client application “aJOrion” from the smart phone’s desktop screen. Upon launching the app, the main screen appears as shown at the right.



2.3. aJ-Orion Client Application Setup Procedure

- 3 Open the “More” menu and select the “Account” item. Enter the Google Gmail “User” name (for xxx@gmail.com enter only xxx) and “Password” in the associated fields as shown at the right.

Select “Save” when the settings have been entered. A confirmation popup message will be displayed if the account is recognized. Otherwise a message will indicate to check the settings.

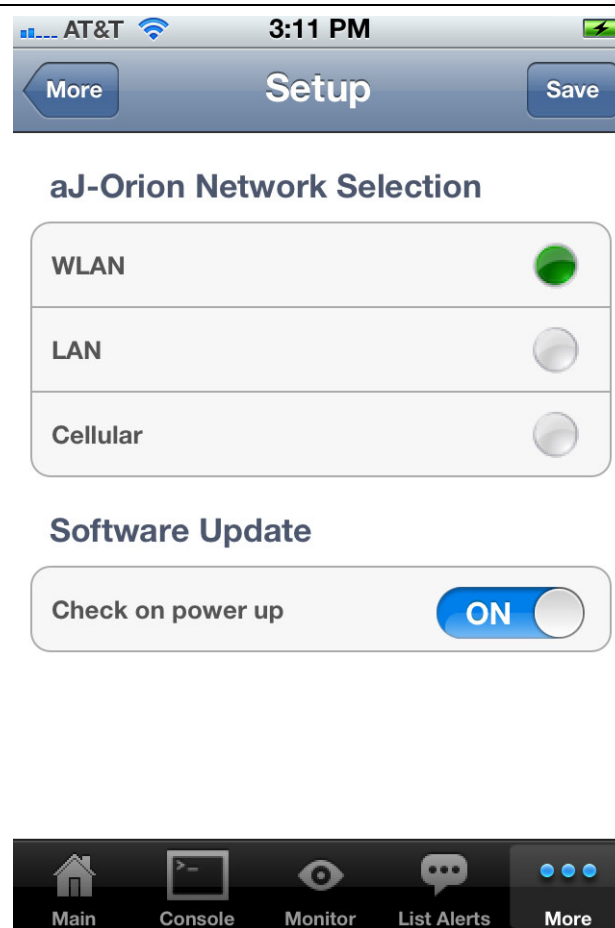


- 4 Return to the “More” menu and select the “Setup” item. The aJ-Orion network selection choices are shown. The Cellular network is only available if the aJ-Orion device is equipped with a cellular modem.

- 5 By default, the software automatically checks for software update on power up. If you do not want to update software automatically, then select “OFF”.

NOTE: When aJ-Orion device determines an new version is available, the software will be downloaded automatically. The download via WLAN typically takes 12 minutes or about 3 minutes via LAN configuration.

- 6 Select the desired network connection to be used by the aJ-Orion device as shown at the right.



7 If “WLAN” network connection is selected then update the WLAN Configuration fields as shown at the right. The current smart phone’s WLAN setting can be automatically entered via selecting the “Import SSID” button. Otherwise, fill in the fields as indicated below:

- Enter Network SSID
- Select WLAN band - B/G or N
- Select Security – none, WPA/WPA2, WEP (64-bit), WEP (128-bit)
- Enter Security key (if security is enabled)

NOTE: Only AES encryption is supported.

8 Proceed to step 11 to setup the aJ-Orion device.



AT&T 2:18 PM

Setup **WLAN Settings** Import SSID

Network SSID

Band ☒ B/G ☐ N

Channel

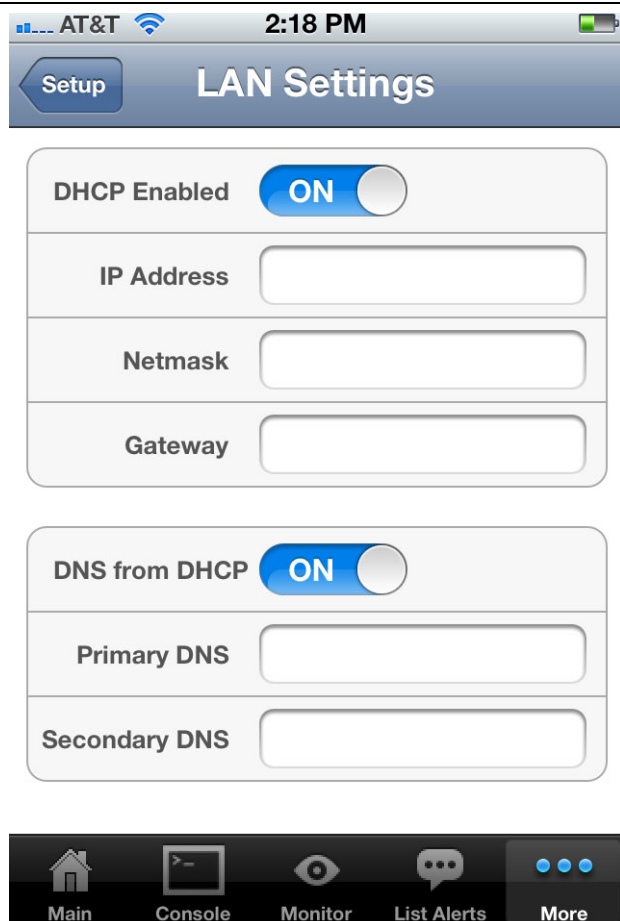
☐ No security ☒ WPA/WPA2

☐ WEP (64-bit) ☐ WEP (128-bit)

Security Key

9 If “LAN” network connection is selected then update the LAN Settings fields as shown at the right.

10 The recommended setting for most users is “DHCP Enabled” and “DNS from DHCP”. Otherwise, fill in the addresses as needed for static IP address assignment and/or specific DNS servers.



AT&T 2:18 PM

Setup **LAN Settings**

DHCP Enabled ☒

IP Address

Netmask

Gateway

DNS from DHCP ☒

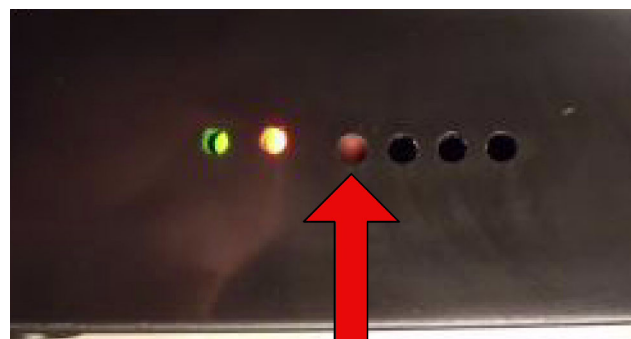
Primary DNS

Secondary DNS

Main Console Monitor List Alerts More

2.4. aJ-Orion Device Setup

- 11 Connect the provided Ethernet cable between the aJ-Orion device and the router.
- 12 Connect the provided power supply to the aJ-Orion and move the power switch to the on position. The aJ-Orion device requires about 40 seconds to initialize before sounding one short beep.
- 13 If the aJ-Orion has been previously configured, then press and release the reset button (next to the red light) **immediately after the short beep**. The reset button is recessed in the case such that a paper clip wire is needed to reach it.



Reset Button

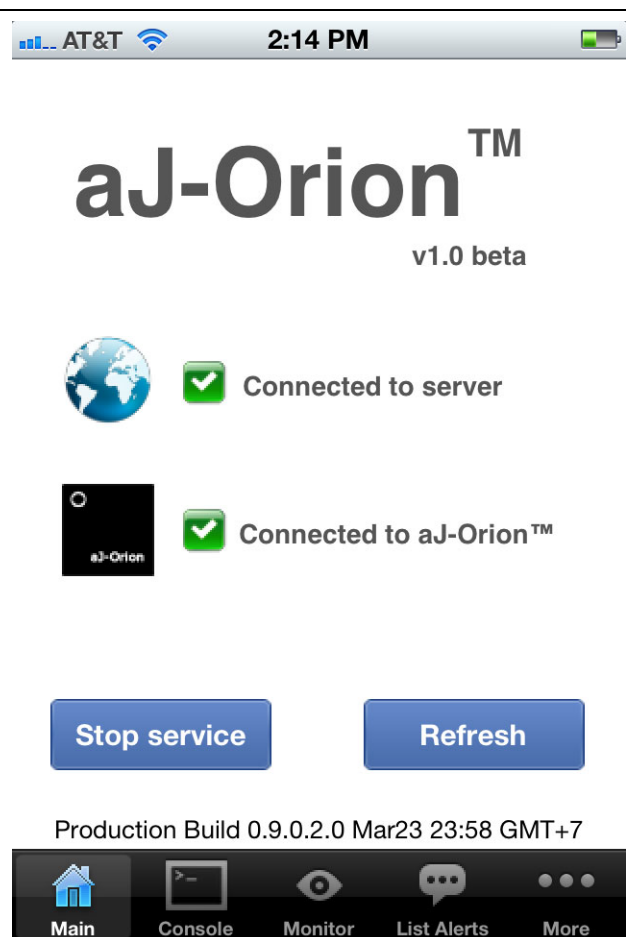
2.5. aJ-Orion Client Application Startup Procedure

- 14 Return to the “Setup” menu and select the “Save” button to save the network settings to the aJ-Orion device. Two short beeps from the aJ-Orion device signal it has received the configuration information.

NOTE: *If the aJ-Orion device begins beeping once every 2 seconds then the device is downloading a new version of software. The download via WLAN will take approximately 10 minutes or about 3 minutes via LAN configuration.*

- 15 The aJ-Orion client application is now ready to connect to the server. Open the “Main” menu and select the “Start service” item. The main screen will update the system status indicators as follows:

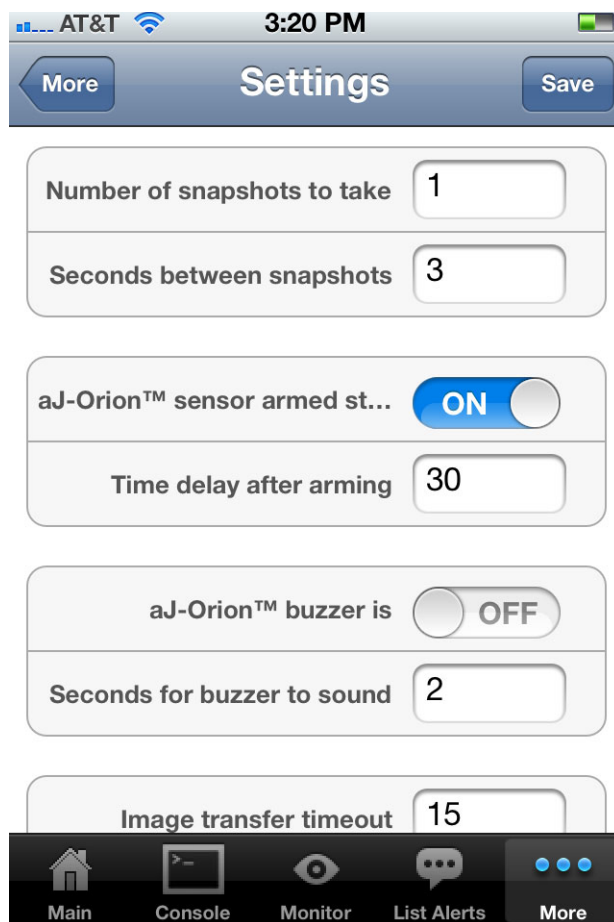
- The server connection status will change to a green check box and indicate “Connected to server”. *If the red x box remains then verify/ update the server account setting in step 3.*
- The aJ-Orion device connection will change to a green check box and indicate “Connected to aJ-Orion” within a minute. The aJ-Orion device will sound 3 short beeps when ready. The Ethernet cable can be removed if using WLAN network. *If the red x box remains after 2 minutes then restart the network setup starting at step 4.*



16 Optionally, the aJ-Orion device response and messages can be customized. Open the application main menu and select the “Message Settings” item. The setting page will be displayed when the connection with the aJ-Orion device is achieved as shown at the right. The settings are described below:

- **Number of snapshot to take**: For each alert, 1 to 10 images can be sent from the aJ-Orion device.
- **Seconds between snapshots**: When multiple snapshots are specified, the time between images can be specified between 1 and 10 seconds.
- **aJ-Orion sensor armed state**: The aJ-Orion device can be armed/disarmed to correspondingly enable/disable alerts.
- **Time delay after arming**: A delay can be set from 10 to 60 seconds when arming the aJ-Orion device (when previously disarmed) to allow time to exit the room without setting off the alarm.
- **aJ-Orion buzzer setting**: The aJ-Orion device buzzer can be enabled/disabled when an alarm is triggered.
- **Seconds for buzzer to sound**: The aJ-Orion device can be set to buzz between 1 and 5 seconds when an alarm is triggered.
- **Image transfer timeout setting**: The time allowed for sending images from the aJ-Orion device can be set from 10 to 60 seconds to allow for network delays.
- **Monitor timeout setting**: The time allowed for monitoring sessions can be programmed from 1 to 20 minutes.
- **Sensitivity setting**: The sensitivity of the aJ-Orion device can be adjusted using the slider bar provided. Moving the slider toward the left decreases sensitivity. Moving the slider to the right increases sensitivity.

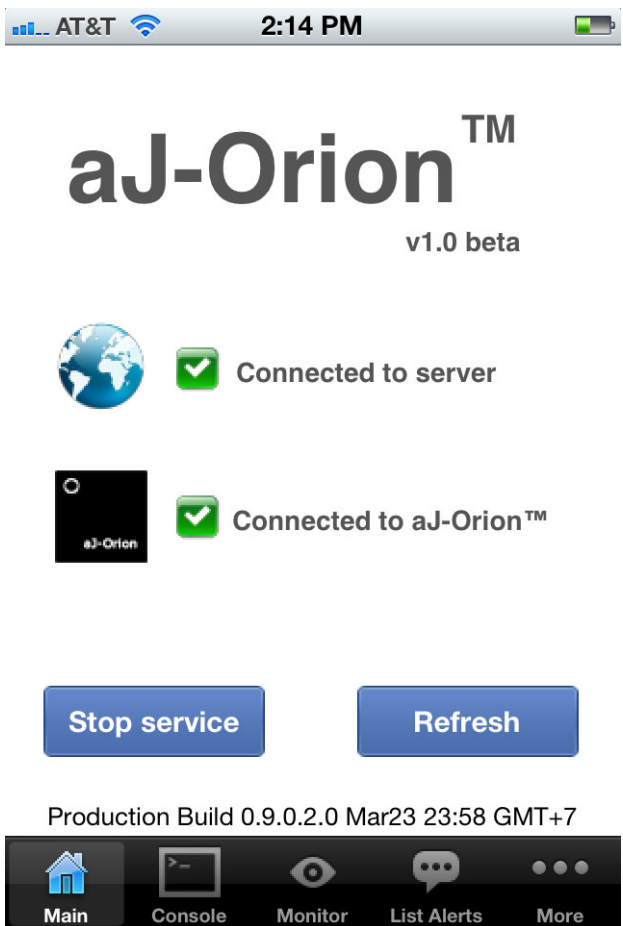

17 Upon completing the settings, select the “Save” button to save the setting to the aJ-Orion device. A popup message will confirm the setting are saved to the aJ-Orion device.



CHAPTER 3 : OPERATIONS


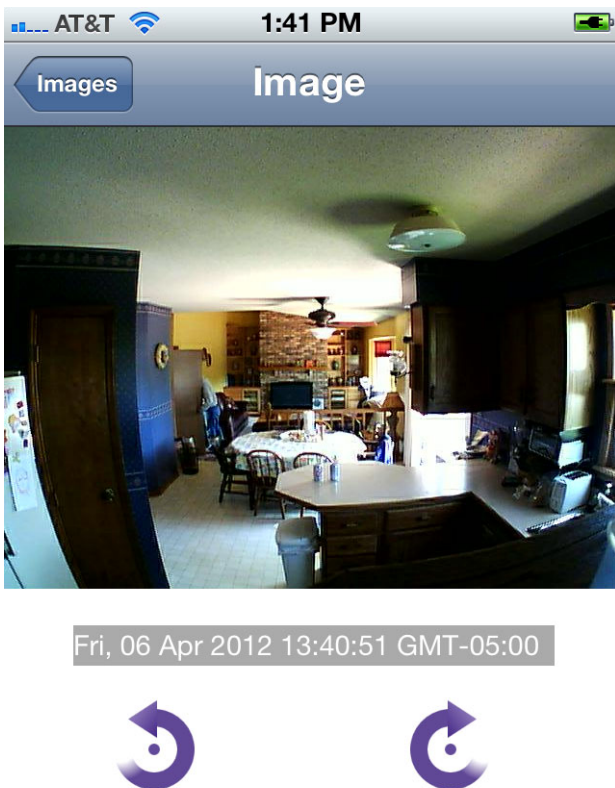
3.1. Status

The aJ-Orion system software consists of two components (aJ-Orion device software and aJ-Orion client application software) that communicate to each other via the Google Talk server. Therefore, both aJ-Orion software components must be connected to the Google Talk server before the system is operational. The aJ-Orion client application main screen shows the status of these connections.

<p>1 The aJ-Orion client application main screen shows the system status as follows:</p> <ul style="list-style-type: none"> • Server connection status (connected or not connected) • aJ-Orion device connection status (connected or not connected) <p>2 The system is operational when all status conditions are green as shown at the right. Be aware that upon activation of the phone from sleep mode, the smart phone may switch from the cellular network to a local WLAN network automatically. The switching between networks can take several seconds whereby the status of the server and aJ-Orion device will show no connection. Once the network switch is completed, the server and aJ-Orion device connections should be reestablished.</p> <p>3 When the aJ-Orion device indicates loss of connection with the server, it may help to re-establish connection. This is accomplished via selecting the “Refresh” button to force the aJ-Orion client application to re-establish connection to the server. Note, however, there may be other causes preventing operation. Appendix A.2. Trouble Shooting, may help in resolving connection problems.</p>	
<p>4 The aJ-Orion device has a green light to show power is on and a red light to indicate status as follows:</p> <ul style="list-style-type: none"> • OFF - aJ-Orion device disarmed, • ON (steady) - aJ-Orion device armed, • 1Hz flash - Sensor warming up, • 2Hz flash - Configuration mode, • 5Hz flash - low battery condition (Cellular option only) 	

3.2. Alerts


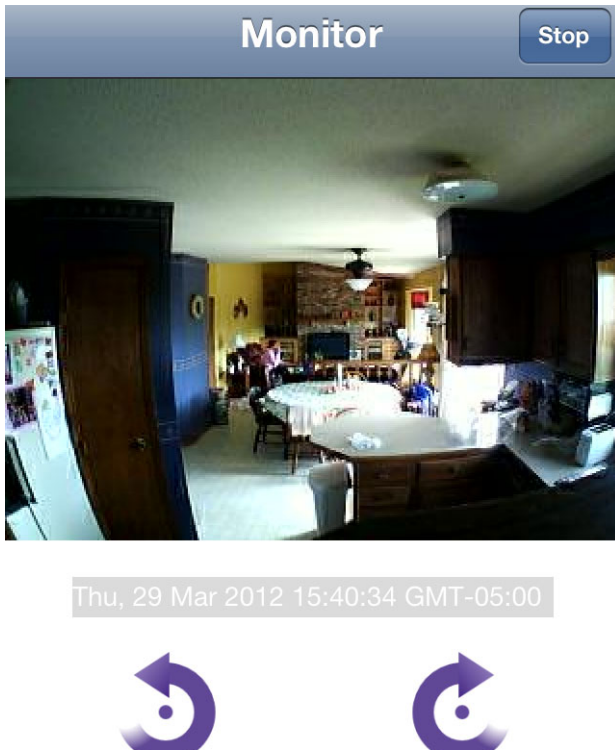
Alerts are notifications sent to the smart phone when the aJ-Orion device alarm is triggered. The phone will vibrate upon receiving the notification and an “aJ-Orion Alert” icon will appear on the phone's status bar.

<p>1 Selecting the alert notification from the smart phone's status bar will switch to the aJ-Orion client application “Images” screen as shown at the right.</p> <p>The “Images” screen displays the images associated with the alert. Note that the number of images shown is dependent on the <i>Number of snapshots to take</i> setting in the “Setting” screen (see step 16 in section 2.5. aJ-Orion Client Application Startup Procedure).</p> <p>NOTE: Image files are encoded with a sequence # and the time and date of the snap shot.</p>	
<p>2 Selecting an image file will initiate the image file transfer from the aJ-Orion device and display on a new screen as shown at the right.</p> <p>NOTE: Successful transmission saves the image file on the smart phone's Camera Roll.</p> <p><i>Alerts will accumulate in the aJ-Orion device and eventually reach the storage capacity. When the storage is full, the oldest alerts will be automatically deleted to make room for the latest alerts.</i></p> <p>3 The image can be rotated either clockwise or counter-clockwise using the associated button on the screen.</p>	

3.3. Monitoring

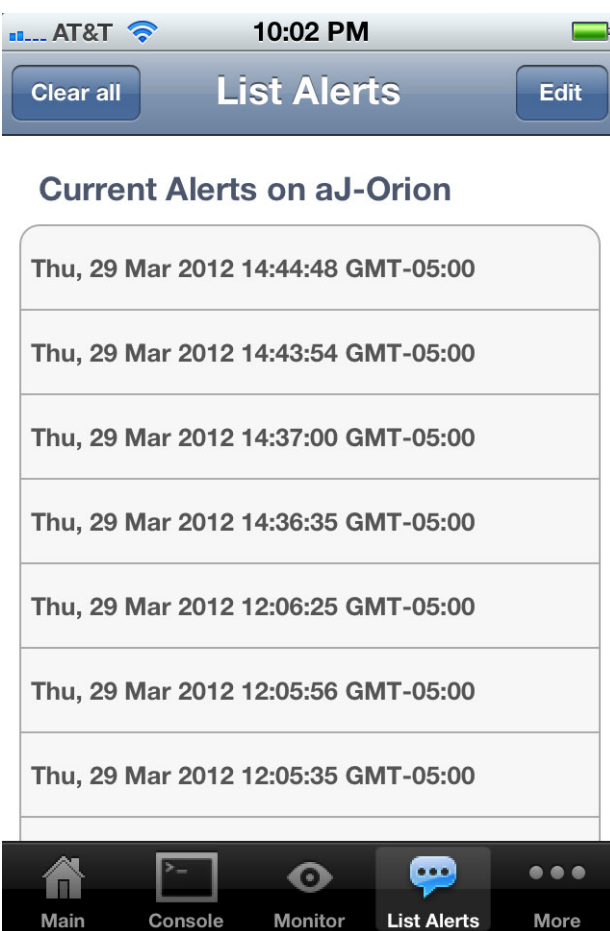
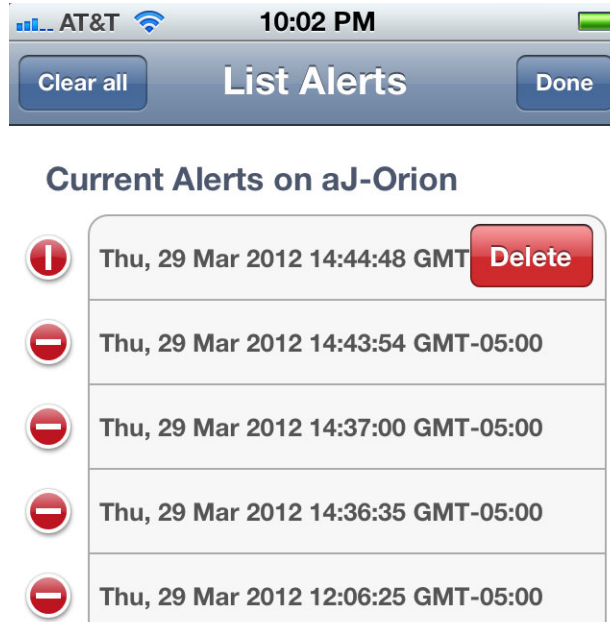
Monitoring mode is where the aJ-Orion device continuously sends images (series of snap shots) for a limited time. This is not streaming video. The typical time between snap shots is between 4 and 12 seconds.

Note that the received images are not stored in the phone's Camera Roll.

<ol style="list-style-type: none"> 1 The monitor screen is accessed via selecting the “Monitor” item from the bottom menu list. The monitor screen will display the last image received as shown at the right. Select the “Start” button to begin a monitoring session. 2 The image can be rotated either clockwise or counter-clockwise using the associated button on the screen. 	
<ol style="list-style-type: none"> 3 Once monitoring is activated, the screen will show the received images along with the date and time as shown in the far right. Select “Stop” to end the monitoring session. <p>NOTE: Exiting the Monitor screen will terminate the monitoring session.</p> <ol style="list-style-type: none"> 4 Monitoring sessions are also time limited. The default monitoring time is 10 minute. The time limit can be adjusted as described in section 2.3. aJ-Orion Client Application Setup Procedure, step 16. 	

3.4. Viewing Alerts

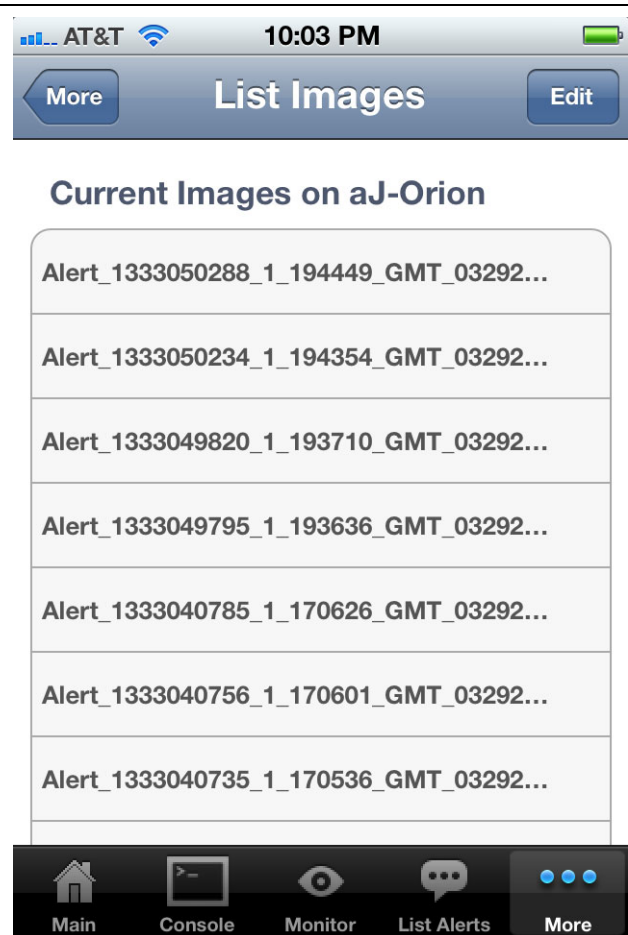
Often several alerts may be received before they are acknowledged. In addition, network communications are not always reliable such that some alerts may not be sent or are not received by the phone. The aJ-Orion device stores alert images in memory until they are deleted by the aJ-Orion client application.

<ol style="list-style-type: none"> 1 The list of alerts is accessed via selecting the “List Alerts” item from the bottom menu list. An example of a list of alerts stored on the aJ-Orion device is shown at the right. 2 The alerts are listed with the most recent at the top of the list. Select the alert item to view the images associated with the alert. 3 Viewing the images associated with the alert is described in section 3.2. Alerts, above. 	
<ol style="list-style-type: none"> 4 The “Edit” button is used to select an alert to be deleted from the aJ-Orion device without transferring and viewing the associated images. The alert is selected via the red dash circle icon to the left of the alert item. Subsequently, the “Delete” button will appear to the right of the alert. Selecting “Delete” will remove the alert and all associated images from the target. Thereupon, the screen is refreshed. 5 The “Clear All” button will remove all alerts from the aJ-Orion device. <i>NOTE: Alerts will accumulate in the aJ-Orion device. When the storage has reached full capacity, the oldest alerts will be deleted automatically to make room for the latest alerts</i> 	

3.5. Viewing Images

An alternative way to view captured alert images not sent or requested by the phone is via the image list. The aJ-Orion device stores alert images in memory until they are deleted by the aJ-Orion client application.

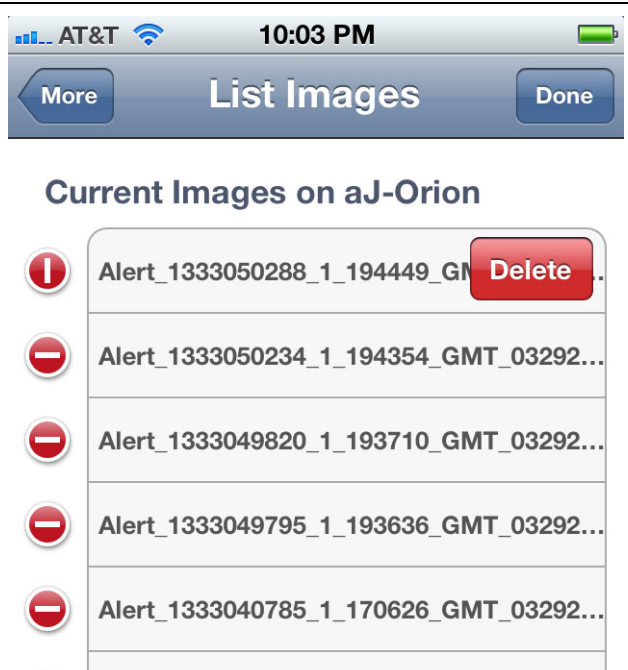
- 1 The list of images is accessed via selecting the “List Images” item from the bottom menu list. An example of a list of alerts stored on the aJ-Orion device is shown at the right.
- 2 Selecting any image file from this list will initiate the image file transfer from the aJ-Orion device and display on a new screen.



- 3 The “Edit” button is used to select an image to be deleted from the aJ-Orion device without transferring and viewing.

The image is selected via the red dash circle icon to the left of the alert item. Subsequently, the “Delete” button will appear to the right of the alert. Selecting “Delete” will remove the image from the target. Thereupon, the screen is refreshed.

NOTE: Alert images will accumulate in the aJ-Orion device. When the storage has reached full capacity, the oldest alert images will be deleted automatically to make room for the latest images.



3.6. Console

The console screen provides a running history of events recorded by the aJ-Orion client application. Typical events include starting/stopping service, logging onto the server, and received alerts. The console screen is accessed via opening the application main menu and selecting the “Console” item.

The console screen has two buttons (“Test Server” and “Test aJ-Orion”) to test the connection of the respective end points. Selecting either menu option will report the status of the connection.

APPENDIX A: FAQs AND TROUBLE SHOOTING

A.1. FAQs

A.1.1. Are image list if an alert is missed?

No. Images are stored on the aJ-Orion device until requested by the aJ-Orion client application. See 3.4.: Viewing Alerts or 3.5.: Viewing Images for instructions.

A.1.2. How can previously received images be viewed?

Images are saved on the smart phone's *Camera Roll*. The photo application (such as the iPhone “Photos” application) can be used to view all of the images

A.1.3. How many images can be stored on the aJ-Orion device?

The number of images stored on the aJ-Orion device is dependent on image size and available memory. The upper limit is 250 images.

Note that images can be deleted without transferring and viewing. See 3.5.: Viewing Images, step 3.

A.2. Trouble Shooting

A.2.1. aJ-Orion client application popup message “Cannot connect to aJ-Orion box”

- **Condition #1:** Attempting to open the Monitor, List Alerts, List Images, More, etc.
Resolution #1: The aJ-Orion client application didn’t receive an acknowledgement from the aJ-Orion device. Try the following steps:
 - Step 1: Go to the “Home” screen and select the “Refresh” button. The aJ-Orion client application will re-establish connection with the server and attempt to contact the aJ-Orion device. If successful, the status indicators will both have a green check boxes. Otherwise try the next step.
 - Step 2: Go to the “Home” screen and select the “Stop service” button and wait a few seconds before selecting “Start service. The aJ-Orion client application will re-establish connection with the server and attempt to contact the aJ-Orion device. If successful, the status indicators will both have a green check boxes. Otherwise if the aJ-Orion client application is not connected to the server then proceed to section A.2.2. If the aJ-Orion client application is not connected to the aJ-Orion device then proceed to section A.2.3.
- **Condition #2:** Attempting to save the aJ-Orion device network settings.
Resolution #2: The aJ-Orion device and the smart phone need to be connected to the same router when saving the aJ-Orion network settings. There are several possible causes that may be preventing the communications. Try the following steps:
 - Step 1: Ensure the aJ-Orion device is ready to receive the network configuration settings. Refer to steps 11 through 13 in section 2.4.: aJ-Orion Device Setup and perform these steps if not previously executed. Thereafter, retry saving the settings.
 - Step 2: Check the Ethernet cable connection between the aJ-Orion device and the router (the LAN lights will indicate when the Ethernet cable is secured). Retry saving the settings if not previously connected.
 - Step 3: The aJ-Orion client application may have lost network connection or is in the process of switching between cellular and WLAN network connection. Wait until the smart phone’s WLAN signal indicator is active and retry saving the settings.

Step 4: Check that the smart phone is connected to the same router as the aJ-Orion device. The smart phone's router connection can be checked via the phone's network setting screens. If necessary, switch to the correct wireless network and retry saving the settings.

A.2.2. aJ-Orion client application status shows “Not connected to Server”

- **Condition:** aJ-Orion client application shows no server connection for over 5 minutes.

Resolution: The aJ-Orion client application may have lost network connection or is in the process of switching between cellular and WLAN network connection. Try the following steps:

Step 1: Ensure the aJ-Orion device is ready to receive the network configuration settings. Refer to steps 11 through 13 in section 2.4.: aJ-Orion Device Setup and perform these steps if not previously executed. Thereafter, retry saving the settings.

Step 2: Check the Ethernet cable connection between the aJ-Orion device and the router (the LAN lights will indicate when the Ethernet cable is secured). Retry saving the settings if not previously connected.

Step 3: The aJ-Orion client application may have lost network connection or is in the process of switching between cellular and WLAN network connection. Wait until the smart phone's WLAN signal indicator is active and retry saving the settings.

Step 4: Check that the smart phone is connected to the same router as the aJ-Orion device. The smart phone's router connection can be checked via the phone's network setting screens. If necessary, switch to the correct wireless network and retry saving the settings.

A.2.3. aJ-Orion application status shows “Not connected to aJ-Orion”

- **Condition #1:** aJ-Orion device status: Red light is on. No buzzer sounds for over 5 minutes.

Resolution #1: The aJ-Orion client application may have lost network connection or is in the process of switching between cellular and WLAN network connection. Try the following steps:

Step 1: From the aJ-Orion client application main screen, select “Refresh”. If the application status doesn't change to show connection within a few minutes then proceed to the next step.

Step 2: From the aJ-Orion client application main screen, select “Stop service” and wait a few seconds before selecting “Start service”.

- **Condition #2:** aJ-Orion device status: Red light is on. Buzzer sounds once every 5 minutes.

Resolution #2: aJ-Orion device is not able to connect to the network. Check the following.

Step 1: Verify network connections. If using WLAN connection, verify the following:

- Network SSID name must match and is case sensitive,
- Verify band selection,
- Set channel selection to Auto if unknown,
- Verify security selection and encryption is AES (TKIP is not supported),
- Reenter password.

If using LAN connection, check if LAN link light (next to LAN cable jack) is on or blinking).

Step 2: Verify network is up using the WLAN on the phone or a PC.

Step 3: If using WLAN, it is possible the WLAN signal strength is too weak at the aJ-Orion device's current location. Try placing the aJ-Orion device in the same room as the router. Otherwise reconfigure the aJ-Orion device via following the instructions in section 2.3.: aJ-Orion Client Application Setup Procedure.

- **Condition #3:** aJ-Orion device status: Red light is off. Buzzer sounds once every 2 seconds.

Resolution #3: The aJ-Orion device is downloading a firmware update. This may take 12 minutes when using a WLAN network connection or 3 minutes when using LAN configuration.

- **Condition #4:** aJ-Orion device status: Red light is off. No buzzer sounds for over 5 minutes.
Resolution #4: Power cycle the aJ-Orion box.

A.3. Revising system settings

It may be necessary to change the system settings (such as server account or network settings) once the aJ-Orion system has been initially configured. The following subsections describe the common revisions to system setting. Note that these descriptions are streamlined from the setup steps given above. (See sections 2.3. through 2.5. for complete details.)

A.3.1. Changing server accounts

The aJ-Orion device and the aJ-Orion client application must use the same server account to communicate with each other. If the server account is to be changed, then the aJ-Orion device must be updated accordingly. Saving the server account settings (as shown in step 3 in section 2.3.: aJ-Orion Client Application Setup Procedure) is only applied to the aJ-Orion application.

To save the server account setting to the aJ-Orion device, follow steps 11 through 13 in section 2.4.: aJ-Orion Device Setup to prepare the aJ-Orion device to receive the new configuration. Once the aJ-Orion device is ready, then open the aJ-Orion client application “More” screen from the bottom menu list and select the “Setup” item. Select the “Save” item to transfer the current network and account settings to the aJ-Orion device. A popup message will confirm the setting are saved to the aJ-Orion device.

A.3.2. Changing network configuration

Network configuration settings can be changed via following steps 3 through 14 in sections 2.3. through 2.5..